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Gregory, William K. THE ORIGIN AND EVOLUTION OF THE HUMAN DENTITION. Baltimore: Williams & Wilkins Co., pp. i-xviii, 1-548, including plates. 1922.

The Origin and Evolution of the Human Dentition is primarily a review covering a wide field of research, carried over a number of years, both by the author and other authorities. It therefore constitutes an authoritative and comprehensive treatise in which the author has brought together and presented in a masterful way a vast fund of highly important and valuable information. Incidentally, many important controversial questions have been discussed. The author doubtless will not be followed by some in all his deductions and conclusions regarding these questions, yet it cannot be denied that they have been frankly and fairly argued. Doctor Gregory has presented both sides of all controversial points in his usual fair-minded manner, and has handled the facts in a way to inspire the confidence of the reader in his ability to observe clearly and to interpret intelligently. Regardless, therefore, of what may be the verdict of other authorities in accepting or rejecting some of the theories defended by its author, this book must stand as a most valuable and convenient reference work on the subjects treated therein.

The book is splendidly illustrated with 353, for the most part, accurately executed line drawings and half-tone figures. Although most of these have appeared in various earlier publications, either of the same author or those of others, their reproduction here adds immeasurably to the value of the work.

Lack of space does not admit a complete or even adequate partial review of this important work, hence little more is attempted here than to give a very general outline of the subject matter contained in it.

The book, which contains more than 500 pages, consists of five major parts which were first published in five successive numbers of the Journal of Dental Research, to which have been added an important preface and several corrections of errors which crept into the original publications.

Part I deals principally with the earliest stages in the development of teeth in the vertebrates and with the principal steps in evolution leading up to the early mammalian types of dentition. It includes an exhaustive review of the general theory of tooth-cusp development in the mammals, in which the author upholds in part the Cope-Osborn trituberculy theory, and accepts in general but not in its entirety the "premolar-analogy" theory as defended by Wortman and Gidley. In this connection he has introduced a hypothesis of his own, which is mentioned here only because of the very vital bearing it has on a very fundamentally important deduction postulated by the author in its assumption, namely, that the type of upper molar in which the paracone and metacone are fused, or but slightly separated, and set well inward from the buccal side of the tooth crown (such as *Centetes*, *Potamogale*, *Solenodon*, etc.) is nearest to the basic type of dentition from which have been derived all the more modern forms of tooth structure of the placentals and marsupials. This is based on an assumption denied by Gidley (1906) that the main internal cusp in the upper molars of such forms as *Dryolestes* of the Upper Jurassic is not homologous with the corresponding cusp in modern mammals, but that it represents the primitive reptilian cone, which, through the inward building of a cingulum cusp (the "protocone") finally became the paracone-metacone of modern mammals. There is not space to discuss this important question here, but it may be stated on the authority of the present re-

viewer, who has critically studied these so-called Jurassic mammals, that Gregory's theory has been based largely, at least, on a wholly erroneous conception of the true structure of the upper molars of *Dryolestes*. Happily, however, the truth or falsity of Gregory's deductions in this regard do not materially affect the broader proposition of the derivation of modern mammalian molar teeth from the ancient tritubercular-tuberculosectorial type of teeth.

Part II is primarily an introduction to the study of the evolution of the teeth in the Primates and deals at length with the origin and early development of this great order, while the taxonomic position of its earliest known representatives is discussed. The author here reaffirms his former classification of the Primates in which he placed the Eocene notharetidæ definitely in the "Lemuroidea" as opposed to Wortman's disposition of this group, which the latter concluded were true anthropoids, but no new evidence is added in support of this affirmation. In this part also are presented the principal steps leading from the primitive mammalian tooth structure to the primitive primate dentition.

Part III is devoted almost entirely to a study of the dental structure and other anatomical modifications of the so-called large-eyed, short-jawed primates, including the Eocene members of the Tarsiodea, and the South American monkeys, in respect to the possible origin of their living representatives. In this connection the author has made a special study of the various groups of South American monkeys with reference to their possible bearing on the problem of the origin of man.

The same general discussion is continued in Part IV, which deals principally with Old World monkeys and apes. In this section are reviewed and discussed the anthropoids of the Miocene and Pliocene and their supposed modern descendants, especially in their more immediate relation to the origin of the human race and the development of the human dentition. It is concluded from these studies that man "has been derived from the *Dryopithecus* group of the Simiidae in the late Tertiary,"

In Part V the author discusses fully the later stages in the evolution of the human teeth and considers more in detail the dental characters of extinct races of men, comparing them critically with those of the anthropoid apes. This is followed by a conspectus of the species and chief races of the Hominidae. At the end of Part V the author concludes with a final summary of the whole work in which he outlines "twenty-six stages in the ascent of man and in the evolution of the human dentition."

—J. W. Gidley.

Underwood, William Lyman. *WILD BROTHER*. Boston; The Atlantic Monthly Press. 12mo, pp. i-xi, 1-140, 39 plates. 1921.

On January 23, 1903, in the woods of northern Maine a cook from a logging camp shot a black bear in a den under a large dead pine tree, and by this act made orphan a naked, week-old cub. This little cub becomes "Bruno," the Wild Brother, of Doctor Underwood's story. We read how he is adopted by a kind-hearted woman and nursed at her breast as foster brother to her little girl; and how he becomes a burden to his foster parents and is taken to the home of Professor Underwood at Belmont. And then his behavior and pranks at Belmont are revealed to us in a most interesting manner. For example, we read: "..... Down in the garden one day I found a large fat toad, and when Bruno was at lunch